## AMENDMENTS TO THE CLAIMS

Please amend the claims as detailed below.

1. (currently amended)     An apparatus comprising:

a data word extractor to successively extract a first plurality of data word groups from a stream of input data, one data word group at a time, with each extracted data word group having a group size of at most n bytes, where n is an integer;

a plurality of CRC calculation assemblies coupled to the data word extractor to be selectively employed to incrementally calculate a CRC value for the first plurality of data word groups, the calculation being iteratively performed, one iteration at a time, and for each iteration, the selection of the CRC calculation assemblies being made in accordance with the group size of the data word group extracted for the iteration[[,]];

a plurality of storage elements correspondingly coupled to the plurality of CRC calculation assemblies to correspondingly store the results generated by the corresponding ones of the CRC calculation assemblies for one iteration of the iterative calculation; and

a plurality of selectors coupled to storage elements and the plurality of CRC calculation assemblies to selectively re-circulate one of the stored results back to the selected one of the CRC calculation assemblies for the next iteration of calculation, and to selectively output one of the stored results as the calculated CRC value at the end of the iterative calculation.

2. (original) The apparatus of claim 1, wherein the plurality of CRC calculation assemblies comprise a first CRC calculation assembly coupled to the data word extractor to incrementally calculate the CRC value for said first plurality of data word

groups for an iteration, whenever the data word extractor extracts a data word group of

n/2 or less bytes for the iteration, where n is an even integer.

3. (original) The apparatus of claim 2, wherein the first CRC calculation assembly

comprises less than n/2 CRC calculators coupled to each other in a cascaded manner

to be selectively employed in combination in at least some of the time to incrementally

calculate the CRC value for said first plurality of data word groups for an iteration,

whenever the data word extractor extracts a data word group of n/2 or less bytes for the

iteration.

4. (original) The apparatus of claim 2, wherein the first CRC calculation assembly

comprises n/2 CRC calculators to be selectively employed exclusively to incrementally

calculate the CRC value for said first plurality of data word groups for an iteration,

whenever the data word extractor extracts a data word group of n/2 or less data bytes

for the iteration.

5. (original) The apparatus of claim 2, wherein the plurality of CRC calculation

assemblies further comprise a second CRC calculation assembly coupled to the data

word extractor to incrementally calculate the CRC value for said first plurality of data

word groups for an iteration, whenever the data word extractor extracts a data word

group of more than n/2 bytes for the iteration.

6. (original) The apparatus of claim 5, wherein the second CRC calculation assembly

comprises less than n/2 CRC calculators to be selectively employed in combination at

least some of the times to incrementally calculate the CRC value for said first plurality

of data word groups for an iteration, whenever the data word extractor extracts a data word group of more than n/2 bytes for the iteration.

7. (original) The apparatus of claim 5, wherein the second CRC calculation assembly comprises n/2 CRC calculators to be selectively employed exclusively to incrementally calculate the CRC value for said first plurality of data word groups for an iteration, whenever the data word extractor extracts a data word group of more than n/2 bytes for the iteration.

8. (original) The apparatus of claim 2, wherein the data word extractor also extracts a second plurality of data word groups, and the plurality of CRC calculation assemblies further comprise a second CRC calculation assembly coupled to the data word extractor to incrementally calculate a CRC value for the second plurality of data word groups, for an iteration, whenever the data word extractor extracts for the second plurality of data word groups, a data word group of n/2 or less bytes, where n is an even integer.

9. (original) The apparatus of claim 1, wherein the plurality of selectors comprise
a first selector coupled to the storage elements and the plurality of CRC calculation assemblies to selectively re-circulate one of the stored results back to the selected one of the CRC calculation assemblies for the next iteration of calculation, and a second selector coupled to the first selector to cooperate with the first selector to selectively output one of the stored results as the calculated CRC value at the end of the iterative calculation.

10. (original)        The apparatus of claim 1, wherein n equals 8.

11. (original)      The apparatus of claim 1, wherein the apparatus is disposed on an integrated circuit.

12. (original)      A method comprising:

successively extracting a first plurality of data word groups from a stream of input data, one data word group at a time, with each extracted data word group having a group size of at most n bytes, where n is an integer;

selectively employing a plurality of CRC calculation assemblies coupled to the data word extractor to incrementally calculate a CRC value for the first plurality of data word groups, with the calculation being iteratively performed, one iteration at a time, and for each iteration, selecting the CRC calculation assemblies in accordance with the group size of the data word group extracted for the iteration;

correspondingly storing the results generated by the plurality of CRC calculation assemblies for one iteration of the iterative calculation into a plurality of storage elements; and

selectively re-circulating one of the stored results back to the selected one of the CRC calculation assemblies for the next iteration of calculation, and selectively outputting one of the stored results as the calculated CRC value at the end of the iterative calculation.

13. (original)      The method of claim 12, wherein said selective employment of a plurality of CRC calculation assemblies comprise selecting a first CRC calculation assembly to incrementally calculate the CRC value for said first plurality of data word groups for an iteration, whenever the data word extractor extracts a data word group of n/2 or less bytes for the iteration, where n is an even integer.

14. (original)        The method of claim 13, wherein said selective employment of the first CRC calculation assembly comprises selectively employing a combination of less than n/2 CRC calculators to incrementally calculate the CRC value for said first plurality of data word groups for an iteration, whenever the data word extractor extracts a data word group of n/2 or less bytes for the iteration.

15. (currently amended)   The method of claim 13, wherein said selective employment of the first CRC calculation assembly comprises selectively employing one of n/2 CRC calculators to ~~to~~ incrementally calculate the CRC value for said first plurality of data word groups for an iteration, whenever the data word extractor extracts a data word group of n/2 or less data bytes for the iteration.

16. (original)        The method of claim 13, wherein said selective employment of the plurality of CRC calculation assemblies further comprise selecting a second CRC calculation assembly to incrementally calculate the CRC value for said first plurality of data word groups for an iteration, whenever the data word extractor extracts a data word group of more than n/2 bytes for the iteration.

17. (original)        The method of claim 16, wherein said selective employment of the second CRC calculation assembly comprises selecting a combination of less than n/2 CRC calculators to incrementally calculate the CRC value for said first plurality of data word groups for an iteration, whenever the data word extractor extracts a data word group of more than n/2 bytes for the iteration.

18. (original)      The method of claim 16, wherein said selecting of the second CRC calculation assembly comprises selecting one of n/2 CRC calculators to incrementally calculate the CRC value for said first plurality of data word groups for an iteration, whenever the data word extractor extracts a data word group of more than n/2 bytes for the iteration.

19. (original)      The method of claim 13, wherein said extraction further comprises extracting a second plurality of data word groups, and said selective employment of the plurality of CRC calculation assemblies further comprise selecting a second CRC calculation assembly to incrementally calculate a CRC value for the second plurality of data word groups, for an iteration, whenever the data word extractor extracts for the second plurality of data word groups, a data word group of n/2 or less bytes for the iteration, where n is an even integer.

20. (currently amended)   An apparatus comprising:

        a plurality of processing units to correspondingly process a plurality of network traffic flows; and

        a shared CRC generation block coupled to the processing units to alternately generate a CRC value for a data block of a selected one of the network traffic flows, the shared CRC generation block including at least one CRC generation unit ~~that~~ to iteratively generate a first CRC value for the data block of the selected one of the network traffic flows, the at least one CRC generation unit including a plurality of CRC calculation assemblies to be selectively employed to incrementally calculate a CRC value for a first plurality of data word groups, the calculation being iteratively performed, one iteration at a time, and the selection of the CRC calculation assemblies for the

various iterations being made in accordance with group sizes of extracted data word

groups of the first plurality data words for the various iterations.

21. (original)     The apparatus of claim 20, wherein the plurality of CRC calculation

assemblies comprise a first CRC calculation assembly coupled to the data word

extractor to incrementally calculate the CRC value for said first plurality of data word

groups for an iteration, whenever a group size of a data word group of said first plurality

of data word groups is n/2 or less bytes for the iteration, where n is an even integer.

22. (original)     The apparatus of claim 21, wherein the first CRC calculation

assembly comprises less than n/2 CRC calculators coupled to each other in a cascaded

manner to be selectively employed in combination in at least some of the times to

incrementally calculate the CRC value for said first plurality of data word groups for an

iteration, whenever a group size of a data word group of said first plurality of data word

groups is n/2 or less bytes for the iteration.

23. (original)     The apparatus of claim 21, wherein the first CRC calculation

assembly comprises n/2 CRC calculators to be selectively employed exclusively to

incrementally calculate the CRC value for said first plurality of data word groups for an

iteration, whenever a group size of a data word group of said first plurality of data word

groups is n/2 or less data bytes for the iteration.

24. (original)     The apparatus of claim 21, wherein the plurality of CRC calculation

assemblies further comprise a second CRC calculation assembly coupled to the data

word extractor to incrementally calculate the CRC value for said first plurality of data

word groups for an iteration, whenever a group size of a data word group of said first plurality of data word groups is more than n/2 bytes for the iteration.

25.    (original)    The apparatus of claim 24, wherein the second CRC calculation assembly comprises less than n/2 CRC calculators to be selectively employed in combination at least some of the times to incrementally calculate the CRC value for said first plurality of data word groups for an iteration, whenever a group size of a data word group of said first plurality of data word groups is more than n/2 bytes for the iteration.

26.    (original)    The apparatus of claim 24, wherein the second CRC calculation assembly comprises n/2 CRC calculators to be selectively employed exclusively to incrementally calculate the CRC value for said first plurality of data word groups for an iteration, whenever a group size of a data word group of said first plurality of data word groups is more than n/2 bytes for the iteration.

27.    (original)    The apparatus of claim 21, wherein the plurality of CRC calculation assemblies further comprise a second CRC calculation assembly to incrementally calculate a CRC value for a second plurality of data word groups, for an iteration, whenever a group size of a data word group of the second plurality of data word groups is n/2 or less bytes for the iteration, where n is an even integer.